

WHAT IS CLAIMED IS:

1. A solid-state nuclear magnetic resonance probe for use in a magnetic field, the probe comprising:
 - a housing, the housing being moveable to different positions within the magnetic field;
 - a plurality of isolated spinning modules positioned within the housing, the isolated spinning modules being configured to hold different samples for sequential solid-state NMR analysis; and
 - wherein the housing is configured for the movement of one of the plurality of modules out of a homogeneous portion of the magnet to allow a sample contained with the one of the plurality of modules to return to an equilibrium state.
2. The probe of claim 1, further comprising an attachment device coupled to the housing, the attachment device being configured to receive a repositioning device.
3. The probe of claim 2, wherein the repositioning device moves the one of the plurality of modules out of the homogeneous portion of the magnet.
4. The probe of claim 1, further comprising a radio-frequency isolation shield, the radio-frequency isolation shield configured to reduce cross-talk between spinning modules.
5. The probe of claim 1, wherein the different samples contain the same material for analysis.
6. A system for use in solid-state nuclear magnetic resonance spectroscopy, the system comprising:
 - a probe, the probe comprising,
 - (1) a housing, and
 - (2) a plurality of isolated spinning modules positioned within the housing, the isolated spinning modules being configured to hold different samples for analysis;
 - a repositioning device coupled to the probe, the repositioning device being configured to alter the position of the probe to place a spinning module within the homogeneous portion of a magnet; and

an acquisition device coupled to the spinning modules, the acquisition device being configured to acquire a spectrum from only the spinning module that is placed within the homogeneous portion of a magnet.

7. The system of claim 6, wherein the repositioning device is a stepper motor.
8. The system of claim 6, further comprising a receiver coupled to the probe for obtaining the spectrum.
9. A solid-state nuclear magnetic resonance spectrometer, comprising:
 - a magnet, the magnet defining a bore;
 - a probe, the probe comprising,
 - (1) a housing sized to fit within the bore of the magnet, and
 - (2) a plurality of isolated spinning modules positioned within the housing, the isolated spinning modules being configured to hold different samples for analysis;

a repositioning device coupled to the probe, the repositioning device being configured to alter the position of the probe to place a spinning module within the homogeneous portion of a magnet and remove a second spinning from the homogeneous portion of the magnet; and

an acquisition device coupled to the spinning modules, the acquisition device being configured to acquire the signal from only one of the isolated spinning modules during an acquisition of a spectrum.

10. The system of claim 9, wherein the repositioning device is a stepper motor.
11. The system of claim 9, further comprising a receiver coupled to the probe for obtaining the spectrum.
12. The system of claim 9, wherein the magnet is a superconducting magnet.
13. A method for the analysis of sample, the method comprising the steps of:
 - providing a magnet, the magnet defining a bore;
 - providing a probe, the probe being positioned within the bore of the magnet;
 - providing a plurality of spinning modules within the probe;
 - placing a plurality of samples within the plurality of spinning modules;
 - positioning the probe within the bore of the magnet to position a first spinning module in a first position;

acquiring a first spectrum from a first sample contained within the first spinning module;

moving the probe from the first position to a second position that positions a second spinning module for the acquisition of a second spectrum from a second sample contained within the second spinning module.

14. The system of claim 13, wherein the step of moving the probe from a first position to a second position comprises providing a stepper motor to control the position of the probe.